		Evaloring the Ev	tromo
		Exploring the Ex 2008 Mathema	
		Grade Level Articu	
Arizona Mathematic	•	Grade Level Articu	liations
Grade K	S		
	State	Standards	
Activity/Lesson	State	Standards	Identify the guestion(s) asked and any other
Finding the Center of			Identify the question(s) asked and any other questions that need to be answered in order
· ·		MAKE 2 DO 1	to find a solution.
Gravity Using Rulers		IVIA.N.S.Z.PU I	
Finding the Center of			Identify the question(s) asked and any other
Gravity Using Plumb	A 7	MA K 5 0 DO 4	questions that need to be answered in order
Lines	AZ	MA.K.5.2.PO 1	to find a solution.
Changing the Center			Identify the question(s) asked and any other
of Gravity Using			questions that need to be answered in order
Moment Arms	AZ	MA.K.5.2.PO 1	to find a solution.
		Exploring the Ex	
		2008 Mathema	
		Grade Level Articu	ılations
Arizona Mathematic	S		
Grade 1		<u> </u>	
Activity/Lesson	State	Standards	
Fig. 1			Outlier of the second s
Finding the Center of			Collect, record, organize, and display data
Gravity Using Rulers	AZ	MA.1.2.1.PO 1	using tally charts or pictographs.
			Identify the question(s) asked and any other
Finding the Center of			questions that need to be answered in order
Gravity Using Rulers		MA.1.5.2.PO 1	to find a solution.
Finding the Center of			
Gravity Using Plumb			Measure and compare the length of objects
Lines	AZ	MA.1.4.4.PO 2	using the benchmark of one inch.
Finding the Center of			Identify the question(s) asked and any other
Gravity Using Plumb			questions that need to be answered in order
Lines	AZ	MA.1.5.2.PO 1	to find a solution.
Changing the Center			
of Gravity Using			Collect, record, organize, and display data
Moment Arms	AZ	MA.1.2.1.PO 1	using tally charts or pictographs.
Changing the Center			
of Gravity Using			Measure and compare the length of objects
Moment Arms	AZ	MA.1.4.4.PO 2	using the benchmark of one inch.
Changing the Center			Identify the question(s) asked and any other
of Gravity Using			questions that need to be answered in order
Moment Arms	AZ	MA.1.5.2.PO 1	to find a solution.
		Exploring the Ex	
		2008 Mathema	
		Grade Level Articu	ılations
Arizona Mathematic	s		
Grade 2			
Activity/Lesson	State	Standards	

			Collect, record, organize, and display data
Finding the Center of			using pictographs, frequency tables, or
Gravity Using Rulers		MA.2.2.1.PO 1	single bar graphs.
, , , , , , , , , , , , , , , , , , ,			Describe a rule that represents a given
Finding the Center of			relationship between two quantities using
Gravity Using Rulers		MA.2.3.2.PO 1	words or pictures.
, ,			Compare expressions using spoken words
Finding the Center of			and the symbols =, "is not equal to", <, and
Gravity Using Rulers	AZ	MA.2.3.3.PO 2	>.
			Describe and compare the attributes of
Finding the Center of			polygons up to six sides using the terms
Gravity Using Rulers	AZ	MA.2.4.1.PO 1	side, vertex, point, and length.
Finding the Center of			Describe and compare the attributes of
Gravity Using Plumb			polygons up to six sides using the terms
Lines	AZ	MA.2.4.1.PO 1	side, vertex, point, and length.
Changing the Center			Describe a rule that represents a given
of Gravity Using			relationship between two quantities using
Moment Arms	AZ	MA.2.3.2.PO 1	words or pictures.
Changing the Center			Describe and compare the attributes of
of Gravity Using			polygons up to six sides using the terms
Moment Arms	AZ	MA.2.4.1.PO 1	side, vertex, point, and length.
	E	xploring the Ex	
		2008 Mathema	
A		ade Level Articu	ılations ⊤
Arizona Mathematic	S		
Grade 3	Ctata	Cton doude	
Activity/Lesson	State	Standards	Collect, record, organize, and display data
Finding the Center of			using frequency tables, single bar graphs, or
Gravity Using Rulers		MA.3.2.1.PO 1	single line graphs.
Cravity Osing Ruleis	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	WIA.3.2.1.1 O 1	Represent a problem situation using any
Finding the Center of			combination of words, numbers, pictures,
Gravity Using Rulers		MA.3.5.2.PO 5	physical objects, or symbols.
Finding the Center of			Represent a problem situation using any
Gravity Using Plumb			combination of words, numbers, pictures,
Lines	AZ	MA.3.5.2.PO 5	physical objects, or symbols.
Finding the Center of			
Gravity Using Plumb			Summarize mathematical information,
Lines	AZ	MA.3.5.2.PO 6	explain reasoning, and draw conclusions.
Changing the Center			Represent a problem situation using any
of Gravity Using			combination of words, numbers, pictures,
Moment Arms	AZ	MA.3.5.2.PO 5	physical objects, or symbols.
Changing the Center			
of Gravity Using			Summarize mathematical information,
	AZ	MA.3.5.2.PO 6	Summarize mathematical information, explain reasoning, and draw conclusions.
of Gravity Using			explain reasoning, and draw conclusions.
of Gravity Using		xploring the Ex	explain reasoning, and draw conclusions. treme
of Gravity Using	E	xploring the Ex 2008 Mathema	explain reasoning, and draw conclusions. treme tics
of Gravity Using Moment Arms	E	xploring the Ex	explain reasoning, and draw conclusions. treme tics
of Gravity Using	E	xploring the Ex 2008 Mathema	explain reasoning, and draw conclusions. treme tics

Activity/Lesson	State	Standards	
7.0	- Ciuio	Juliudi do	Collect, record, organize, and display data
Finding the Center of			using double bar graphs, single line graphs,
Gravity Using Rulers		MA.4.2.1.PO 1	or circle graphs.
, , , , , , , , , , , , , , , , , , ,			Construct tree diagrams to solve problems in
Finding the Center of		MA.4.2.3.PO	context by explaining how its properties
Gravity Using Rulers		1.b	relate to the problem,
Cramy Comignation	/ · <u>-</u>		Recognize, describe, create, extend, and
			find missing terms in a numerical sequence
Finding the Center of			involving whole numbers using all four basic
Gravity Using Rulers		MA.4.3.1.PO 1	operations.
Cravity Comig Ttaloro	, · · ·	100.1.1.0.1.1.0.1	
Finding the Center of			Describe and model functions and their
Gravity Using Rulers		MA.4.3.2	relationships.
Cravity Coing Ttaloro	/ \L	W/ V. 1.0.2	
Finding the Center of			Identify the change in a quantity over time
Gravity Using Rulers		MA.4.3.4.PO 1	and make simple predictions.
Gravity Comig Traioro	, <u></u>	100.1.10.1.10.1	and make emple predictions.
Finding the Center of			Apply measurement skills to measure length,
Gravity Using Rulers		MA.4.4.4.PO 2	mass, and capacity using metric units.
Finding the Center of		1017 (. 4. 4. 4. 1	mass, and capacity using metric arms.
Gravity Using Plumb			Describe and model functions and their
Lines	AZ	MA.4.3.2	relationships.
Finding the Center of		IVI7 (. 4.0.2	relationships.
Gravity Using Plumb			Identify the change in a quantity over time
Lines	AZ	MA.4.3.4.PO 1	and make simple predictions.
Changing the Center	/ VZ	1017 (. 4.0.4.1 0 1	Collect, record, organize, and display data
of Gravity Using			using double bar graphs, single line graphs,
Moment Arms	AZ	MA.4.2.1.PO 1	or circle graphs.
Wichion 7 thio	/ \L	100 (. 1.2.1.1 0 1	Recognize, describe, create, extend, and
Changing the Center			find missing terms in a numerical sequence
of Gravity Using			involving whole numbers using all four basic
Moment Arms	AZ	MA.4.3.1.PO 1	operations.
Changing the Center	/ \Z	IVI/ (. 4.0.1.1 O 1	operations.
of Gravity Using			Describe and model functions and their
Moment Arms	AZ	MA.4.3.2	relationships.
Changing the Center	/ \Z	W/ (.+.O.Z	relationships.
of Gravity Using			Apply measurement skills to measure length,
Moment Arms	AZ	MA.4.4.4.PO 2	mass, and capacity using metric units.
omone / umo			maco, and capacity doing motile dilite.
	<u>F</u>	⊥ xploring the Ex	treme
		2008 Mathema	
Grade Level Articulations			
Arizona Mathematics			
Grade 5			
Activity/Lesson	State	Standards	
, ,, , , , , , , , , , , , , , , , , ,			Use ratios and unit rates to model, describe
Jet Propulsion	AZ	MA.5.1.1.PO 5	and extend problems in context.
-1			Summarize mathematical information,
Jet Propulsion	AZ	MA.5.5.2.PO 6	explain reasoning, and draw conclusions.
	<u>ı</u>	,	

			Analyza and avaluate whether a calution is
			Analyze and evaluate whether a solution is reasonable, is mathematically correct, and
Jet Propulsion	AZ	MA.5.5.2.PO 7	
Jet Propulsion	AZ	IVIA.3.3.2.PU 1	Use ratios and unit rates to model, describe
Vectoring	AZ	MA.5.1.1.PO 5	·
vectoring	AZ	IVIA.5.1.1.FU 5	Solve problems by understanding and
			applying the property that the sum of the
Vectoring	AZ	MA.5.4.1.PO 2	
vectoring	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	IVIA.3.4.1.F O Z	Measure angles between 0 and 360
Vectoring	AZ	MA.5.4.4.PO 3	
vectoring	\rac{1}{2}	IVIA.3.4.4.1 O 3	Summarize mathematical information,
Vectoring	AZ	MΔ 5 5 2 PO 6	explain reasoning, and draw conclusions.
vectoring	\rac{1}{2}	IVIA.3.3.2.1 O 0	Analyze and evaluate whether a solution is
			reasonable, is mathematically correct, and
Vectoring	AZ	MA.5.5.2.PO 7	answers the question.
vectoring	\rac{1}{2}	IVIA.3.3.2.1 O 1	Determine equivalence by converting
Center of Gravity,			between benchmark fractions, decimals, and
Pitch, Yaw	AZ	MA.5.1.1.PO 1	percents.
Filcii, Taw	AZ	IVIA.3.1.1.FU 1	Construct if then statements to generalize
Center of Gravity,		MA.5.5.2.PO	rules for computation, geometric properties
Pitch, Yaw	AZ	10	and algebraic functions.
i itori, raw	\rac{1}{2}	10	Analyze and evaluate whether a solution is
			reasonable, is mathematically correct, and
Fuel Efficiency	AZ	MA.5.5.2.PO 7	answers the question.
T del Elliolerioy	/\Z	IVIA.3.3.2.1 O 1	Construct if then statements to generalize
		MA.5.5.2.PO	rules for computation, geometric properties
Fuel Efficiency	AZ	10	and algebraic functions.
T doi Emolority	,	10	and digestate fatiotions.
	L	Exploring the Ex	treme
		2008 Mathema	
		Grade Level Articu	ulations
Arizona Mathemat	ics		
Grade 6			
Activity/Lesson	State	Standards	
			Provide a mathematical argument to explain
			operations with two or more fractions or
Jet Propulsion	AZ	MA.6.1.2.PO 5	decimals.
			Use data collected from multiple trials of a
			single event to form a conjecture about the
Jet Propulsion	AZ	MA.6.2.2.PO 1	theoretical probability.
			Analyze a problem situation to determine the
Jet Propulsion	AZ	MA.6.5.2.PO 1	question(s) to be answered.
			Solve simple logic problems, including
			conditional statements, and justify solution
Jet Propulsion	AZ	MA.6.5.2.PO 9	methods and reasoning.
			Provide a mathematical argument to explain
			operations with two or more fractions or
Vectoring	AZ	MA.6.1.2.PO 5	decimals.
			Analyze a problem situation to determine the
Vectoring	AZ	MA.6.5.2.PO 1	question(s) to be answered.
Center of Gravity,			Compare and order integers; and positive
Pitch, Yaw	AZ	MA.6.1.1.PO 4	fractions, decimals, and percents.

			Make estimates appropriate to a given
Center of Gravity,			situation and verify the reasonableness of
Pitch, Yaw	AZ	MA.6.1.3.PO 2	the results.
1 non, raw	, <u>, , , , , , , , , , , , , , , , , , </u>	100 1.0.1.0.1 0 2	Determine the appropriate unit of measure
			for a given context and the appropriate tool
			to measure to the needed precision
Center of Gravity,			(including length, capacity, angles, time, and
Pitch, Yaw	AZ	MA.6.4.4.PO 1	mass).
Center of Gravity,			Estimate the measure of objects using a
Pitch, Yaw	AZ	MA.6.4.4.PO 3	scale drawing or map.
,			Make estimates appropriate to a given
			situation and verify the reasonableness of
Fuel Efficiency	AZ	MA.6.1.3.PO 2	the results.
,			Evaluate an expression involving the four
			basic operations by substituting given
Fuel Efficiency	AZ	MA.6.3.3.PO 4	fractions and decimals for the variable.
,			Isolate and organize mathematical
			information taken from symbols, diagrams,
			and graphs to make inferences, draw
Fuel Efficiency	AZ	MA.6.5.2.PO 7	conclusions, and justify reasoning.
·			Solve simple logic problems, including
			conditional statements, and justify solution
Fuel Efficiency	AZ	MA.6.5.2.PO 9	methods and reasoning.
	·	Exploring the Ex	treme
		2008 Mathema	tics
		Grade Level Articu	ılations
Arizona Mathemat	ics		
Grade 7			
Activity/Lesson	State	Standards	
			Communicate the answer(s) to the
			question(s) in a problem using appropriate
let Dremuleien	4.7	MA 7 5 0 DO C	representations, including symbols and
Jet Propulsion	AZ	MA.7.5.2.PO 6	informal and formal mathematical language.
			Isolate and organize mathematical
			information taken from symbols, diagrams,
let Prepulsion	AZ	MA 7 5 2 DO 7	and graphs to make inferences, draw
Jet Propulsion	AZ	MA.7.5.2.PO 7	conclusions, and justify reasoning.
			Solve logic problems using multiple variables
			and multiple conditional statements using
Jet Propulsion	AZ	MA.7.5.2.PO 9	words, pictures, and charts.
oct i ropulsion	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	IVIA.7.3.2.FU 9	words, pictures, and charts.
			Communicate the answer(s) to the
			question(s) in a problem using appropriate
			representations, including symbols and
Vectoring	AZ	MA.7.5.2.PO 6	informal and formal mathematical language.
v cotoring	/\L	IVIA.1.J.2.FU 0	Isolate and organize mathematical
			information taken from symbols, diagrams,
			and graphs to make inferences, draw
Vectoring	AZ	MA.7.5.2.PO 7	conclusions, and justify reasoning.
v cotoring	/ \ <u>~</u>	1017 (.7 .0.2.1 0 7	considerio, and justify reasoning.

			Solve logic problems using multiple variables
			and multiple conditional statements using
Vectoring	AZ	MA.7.5.2.PO 9	
•			Solve problems with rational numbers and
Center of Gravity,			appropriate operations using exact answers
Pitch, Yaw	AZ	MA.7.1.2.PO 2	or estimates.
Center of Gravity,			Make estimates appropriate to a given
Pitch, Yaw	AZ	MA.7.1.3.PO 2	situation.
Center of Gravity,			Measure to the appropriate degree of
Pitch, Yaw	AZ	MA.7.4.4.PO 7	accuracy and justify reasoning.
			Solve problems with rational numbers and
			appropriate operations using exact answers
Fuel Efficiency	AZ	MA.7.1.2.PO 2	
E E(C	4.7	MA 7 4 0 DO 0	Make estimates appropriate to a given
Fuel Efficiency	AZ	MA.7.1.3.PO 2	situation.
			Solve logic problems using multiple variables
			and multiple conditional statements using
Fuel Efficiency	AZ	MA.7.5.2.PO 9	•
T del Efficiency	72	IVIA.1.3.2.1 0 3	words, pictures, and charts.
		Exploring the Ex	treme
		2008 Mathema	
		Grade Level Articu	ulations
Arizona Mathemat	ics		
Grade 8			
Activity/Lesson	State	Standards	
			Communicate the annual(a) to the
			Communicate the answer(s) to the
			question(s) in a problem using appropriate
Jet Propulsion	AZ	MA.8.5.2.PO 6	representations, including symbols and informal and formal mathematical language.
Jet Fropulsion	//L	IVIA.0.3.2.F O 0	Isolate and organize mathematical
			information taken from symbols, diagrams,
			and graphs to make inferences, draw
Jet Propulsion	AZ	MA.8.5.2.PO 7	• .
			Solve logic problems involving multiple
			variables, conditional statements,
		MA.8.5.2.PO	conjectures, and negation using words,
Jet Propulsion	AZ	10	charts, and pictures.
			Communicate the answer(s) to the
			question(s) in a problem using appropriate
			representations, including symbols and
Vectoring	AZ	MA.8.5.2.PO 6	informal and formal mathematical language.
			Solve logic problems involving multiple
			variables, conditional statements,
Market	1.7	MA.8.5.2.PO	conjectures, and negation using words,
Vectoring	AZ	10	charts, and pictures.
Contor of Crowler			Solve problems with factors, multiples,
Center of Gravity,	\ _{\^\7}	MA 0 4 2 DO 4	divisibility or remainders, prime numbers,
Pitch, Yaw	AZ	MA.8.1.2.PO 1	and composite numbers.

Center of Gravity,			Solve problems involving percent increase,
Pitch, Yaw	AZ	MA.8.1.2.PO 3	percent decrease, and simple interest rates.
Center of Gravity,			Make estimates appropriate to a given
Pitch, Yaw	AZ	MA.8.1.3.PO 1	situation.
			Estimate the location of rational and
Center of Gravity,			common irrational numbers on a number
Pitch, Yaw	AZ	MA.8.1.3.PO 2	line.
Center of Gravity,			
Pitch, Yaw	AZ	MA.8.3.4.PO 2	Solve problems involving simple rates.
			Solve problems with factors, multiples,
			divisibility or remainders, prime numbers,
Fuel Efficiency	AZ	MA.8.1.2.PO 1	and composite numbers.
			Make estimates appropriate to a given
Fuel Efficiency	AZ	MA.8.1.3.PO 1	situation.
			Estimate the location of rational and
			common irrational numbers on a number
Fuel Efficiency	AZ	MA.8.1.3.PO 2	line.
			Recognize, describe, create, and analyze
			numerical and geometric sequences using
			tables, graphs, words, or symbols; make
Fuel Efficiency	AZ	MA.8.3.1.PO 1	conjectures about these sequences.
			Sketch and interpret a graph that models a
			given context; describe a context that is
Fuel Efficiency	AZ	MA.8.3.2.PO 1	modeled by a given graph.